Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

      1.   Cancelled.

      2.   Cancelled

      3.   Cancelled

      4.   (New) An apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a transmitting transparent mode RLC entity that converts service data units (SDUs) received from an upper layer through a transparent service access point to protocol data units (PDUs), which are submitted to a lower layer.

      5.   (New) The apparatus of claim 4, wherein the PDUs outputted by the transmitting transparent mode entity is submitted to the lower layer thorough one of a common control channel, a dedicated control channel, a dedicated traffic channel, a shared control channel, a broadcast control channel, and a paging control channel.

6.   (New) The apparatus of claim 4, wherein the transmitting transparent mode entity includes a segmentation block that segments the SDU to the PDU without adding headers.

7.   (New) The apparatus of claim 6, wherein the transmitting transparent mode entity further includes a transmission buffer.

8.   (New) An apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a receiving transparent mode RLC entity that coverts protocol data units (PDUs) received through configured logical channels from a lower layer to service data units (SDUs), which are delivered to an upper layer through a transparent service access point.

9.   (New) The apparatus of claim 8, wherein the configured logical channels comprises at least one of a common control channel, a dedicated control channel, a dedicated traffic channel, a shared control channel, a broadcast control channel, and a paging control channel.

10.   (New) The apparatus of claim 8, wherein the receiving transparent mode entity includes a reception buffer that stores the PDUs received through the configured logical channels from the lower layer.

11.   (New) The apparatus of claim 10, wherein the receiving transparent mode entity further comprises a reassembly block coupled to the reception buffer that reassembles the buffered PDUs to SDUs, which are delivered to the upper layer through the transparent service access point.

12.   (New) An apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a transmitting unacknowledged mode RLC entity that converts service data units (SDUs) received from an upper layer through an unacknowledged service access point to protocol data units (PDUs), which are submitted to a lower layer.

13.   (New) The apparatus of claim 12, wherein the PDUs outputted by the transmitting unacknowledged mode entity is submitted to the lower layer thorough one of a common control channel, a dedicated control channel, a dedicated traffic channel, a shared control channel, a broadcast control channel, and a paging control channel.

14.   (New) The apparatus of claim 12, wherein the transmitting unacknowledged mode RLC entity includes:

a segmentation and concatenation block that at least one of segments and concatenates the SDUs to PDUs; and

a framing block that frames the PDUs.

15.   (New) The apparatus of claim 14, wherein the transmitting unacknowledged mode RLC entity includes a transmission buffer.

16.   (New) An apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a receiving unacknowledged mode RLC entity that coverts protocol data units (PDUs) received through configured logical channels from a lower layer to service data units (SDUs), which are delivered to an upper layer through an unacknowledged service access point.

17.   (New) The apparatus of claim 16, wherein the configured logical channels comprises at least one of a common control channel, a dedicated control channel, a dedicated traffic channel, a shared control channel, a broadcast control channel, and a paging control channel.

18.   (New) The apparatus of claim 16, wherein the receiving unacknowledged mode entity includes:

a reception buffer that buffers the PDUs;

a block that removes headers from the PDUs; and

a reassembly block that reassembles the PDUs to SDUs.

19.   (New) The apparatus of claim 18, wherein the receiving unacknowledged mode entity further comprises:

an error detection block that detects presence of error in each PDU; and

a duplication detection block that detects a presence of duplicate PDU without error within the PDUs.

20.   (New) An apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having an acknowledged mode RLC entity that converts service data units (SDUs) received from an upper layer through an acknowledged service access point to protocol data units (PDUs), which are submitted to a lower layer through at least one logical channel.

21.   (New) The apparatus of claim 20, wherein the acknowledged mode RLC entity includes:

a segmentation/concatenation block that at least one of segments and concatenates the SDUs to PDUs;

a block which adds headers to the PDUs;

a retransmission buffer that stores the PDUs, the PDUs being retransmitted based on positive or negative acknowledgements of individual PDUs by a peer RLC entity; and

a multiplexer that multiplexes PDUs from the retransmission buffer that need to be retransmitted.

22.   (New) The apparatus of claim 21, wherein the acknowledged mode RLC entity further comprises a control block that manages flow control based on status information.

23.   (New) An apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having an acknowledged mode RLC entity that coverts protocol data units (PDUs) received through configured logical channels from a lower layer to service data units (SDUs), which are delivered to an upper layer through an acknowledged service access point.

24.   (New) The apparatus of claim 23, wherein the acknowledged mode entity comprises:

a reception buffer that buffers the PDUs;

a deframing block to deframe the PDUs;

a control unit that detects a presence of an error in each PDU, wherein if there

is an error in the PDU, the control unit requests a peer RLC to retransmit the PDU and detects

a duplicate PDU and provides a status information to the peer RLC; and

a reassembly block the reassembles the PDUs to SDUs.

25.   (New) An apparatus having a radio access standard protocol architecture, wherein

the improvement comprises a radio link control (RLC) layer having

a transparent mode RLC entity having a transmitting side that converts service

data units (SDUs) received from an upper layer through a transparent service access point to

protocol data units (PDUs), which are submitted to a lower layer, and a receiving side that

coverts protocol data units (PDUs) received through configured logical channels from the lower

layer to service data units (SDUs), which are delivered to the upper layer through a transparent

service access point;

an unacknowledged mode RLC entity having a transmitting side that converts

service data units (SDUs) received from the upper layer through an unacknowledged service

access point to protocol data units (PDUs), which are submitted to the lower layer, and a

receiving side that coverts protocol data units (PDUs) received through configured logical

channels from the lower layer to service data units (SDUs), which are delivered to the upper

layer through an unacknowledged service access point; and

an acknowledged mode RLC entity having a transmitting side that converts service

data units (SDUs) received from the upper layer through an acknowledged service access point

to protocol data units (PDUs), which are submitted to a lower layer through at least one logical

channel, and a receiving side that coverts protocol data units (PDUs) received through

configured logical channels from the lower layer to service data units (SDUs), which are

delivered to the upper layer through an acknowledged service access point.

26.   (New) The apparatus of claim 25, wherein the RLC layer provides following
functions:

        segmentation and reassembly;

        concatenation;

        padding;

        error correction;

        duplicate detection;

        flow control; and

        error detection and recovery.

27.   (New) The apparatus of claim 26, wherein the RLC layer also provides framing

and deframing functions.

28.   (New) The apparatus of claim 26, wherein the transparent mode RLC entity

provide segmentation and reassembly and transfer of user data functions to support transparent

data transfer.

29.   (New) The apparatus of claim 26, wherein the unacknowledged mode RLC entity

provide segmentation and reassembly, concatenation, transfer of user data, and SDU discard

functions to support unacknowledged data transfer service.

30.   (New) The apparatus of claim 29, wherein the unacknowledged mode RLC entity

further provides framing and deframing functions to support unacknowledged data transfer

service.

31.   (New) The apparatus of claim 26, wherein the acknowledged mode RLC entity

provides segmentation and reassembly, concatentation, transfer of user data, error correction,

in-sequence delivery, duplicate detection, flow control, error detection and recovery, and SDU

discard functions to support acknowledged data transfer.

32.   (New) The apparatus of claim 31, wherein the acknowledged mode RLC entity

further provides framing and deframing functions.

33.   (New) An apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio resource control (RRC) layer for at least one of a user equipment (UE) and a universal terrestrial radio access network (UTRAN), comprising:

a broadcast control entity which functions to handle broadcast function;

a paging and notification control entity which functions to control paging;

a dedicated control entity which functions to handle important messages; and

a transfer mode entity that handles a mapping between the entities of the RRC and service access points.

34.   (New) The apparatus of claim 33, wherein the broadcast control entity is used to deliver RRC services, which are required at a general control service access point.

35.   (New) The apparatus of claim 34, wherein the broadcast control entity uses lower layer services provided by transparent service access point and unacknowledged service access point.

36.   (New) The apparatus of claim 33, wherein the paging and notification control entity is used to deliver RRC services that are required at a notification service access point.

37.   (New) The apparatus of claim 36, wherein the paging and notification control entity uses lower layer services provided by transparent service access point and unacknowledged service access point.

38.   (New) The apparatus of claim 33, wherein the dedicated control entity is used to deliver RRC services that are required at a dedicated control service access point.

39.   (New) The apparatus of claim 38, wherein the dedicated control entity uses lower layer services of unacknowledged service access point, acknowledged service access point, and transparent service access point.